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Equine Morbidity and Mortality

A priority in the needs assessment phase of the National Animal Health Monitoring System's (NAHMS) Equine '98 Study was to describe health problems in the U.S. equine population.

The USDA collected data on equine health and management practices via personal interview from a representative sample of equine operations in 28 states¹. These operations represented about three-fourths of the equine population and three-fourths of operations with equine in the U.S. For this study, equids were defined as horses, miniature horses, ponies, mules, donkeys, and burros. Overall 2,904 operations with one or more equids participated in the Equine '98 Study's interviews from March 16 through April 10, 1998. More detailed information on the study and the sampling methodology is available in NAHMS

Equine '98 tabular summary reports.

Participants in the Equine '98 were asked to report the number of various health problems (morbidity) that occurred and the number of and reasons for deaths (mortality) in their equids in 1997. A resident equid was defined as one which spent or was expected to spend more time at the operation than at any other operation (its home).

Owners/operators were asked for the number of health events that occurred during

1997 in two age categories of resident equids, less than 6 months of age and 6 months or older. Health events were reported by the owner/operator and not necessarily confirmed by a veterinarian.

Digestive problems other than colic, such as diarrhea (13.4 percent) and injury/wounds/trauma (12.7 percent), affected the largest percentages of operations with equids less than 6 months of age (Table 1). For the 6 months or greater age group, the largest percentage of operations were affected by injury/wounds/trauma (17.9 percent), leg or hoof problems (16.0 percent), and colic (13.6 percent). Nearly double the percentage of operations had equids affected by obesity compared to chronic weight loss.

Overall, 3.6 percent of foals born alive died at 30 days of age or less with almost one-half of the deaths occurring in the first 2 days of life (Figure 1 on the next page). Overall, mortality rates² in resident equids over

Table 1

Percent of Operations Where Resident Equids were Affected with
the Following Conditions in 1997 by Age Group

| Foals Less than 6 Months | | Equids 6 Months or Older | |
|--|---------------------|---|--------------------|
| Cause | Percent Operations* | Cause | Percent Operations |
| Other digestive problems (e.g., diarrhea) | 13.4 | Injury/wounds/trauma | 17.9 |
| Injury/wounds/trauma | 12.7 | Leg/hoof problems | 16.0 |
| Respiratory problems | 3.6 | Colic | 13.6 |
| Leg/hoof problems | 2.8 | Eye problems | 7.4 |
| Colic | 2.7 | Respiratory problems | 6.3 |
| Reproductive problems | 1.8 | Skin problems | 6.0 |
| Skin problems | 1.5 | Overweight/obese | 4.5 |
| Eye problems | 1.3 | Reproductive problems | 3.2 |
| Overweight/obese | 1.2 | Other digestive problems (e.g., diarrhea) | 2.8 |
| Chronic weight loss | 0.7 | Chronic weight loss | 2.7 |
| Infectious disease unrelated to specific body system i.e., generalized infection | 0.6 | Behavioral problems | 1.7 |
| Neurologic problems | 0.3 | Neurologic problems | 1.6 |
| Behavioral problems | 0.1 | Infectious disease unrelated to specific body system, i.e., generalized infection | 1.1 |

* For operations with foals.

¹ Alabama, California, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Montana, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Virginia, Washington, Wisconsin, and Wyoming.

² Number of resident equids older than 30 days of age that died or were euthanized during 1997 as a percent of August 1, 1997, age class resident equine inventory.

30 days of age but less than 6 months compared to those from 6 months up to 5 years, and 5 to 20 years, of age were similar (1.4 and 1.3 percent, respectively), while the overall mortality rate for those resident equids 20 years or older was much higher (11.1 percent).

The largest percentages of foal deaths in equids of 30 days of age or less were from unknown causes (33.2 percent), birth defects (17.6 percent), injury/wounds/trauma (9.4 percent), and birthing problems (5.1 percent, Figure 2). 'Other known' causes included prematurity, lack of milk or colostrum in the mare, exposure or drowning, and infection.

By far, the most common cause of death in resident equids greater than 30 days of age was old age (29.5 percent), followed by colic (17.5 percent) and injury/wounds/trauma (10.5 percent). Injury, wounds, or trauma may have involved a leg/h hoof indicating potential overlap between these two categories. Combined, injury/wounds/trauma and leg or hoof problems accounted for 17.6 percent of deaths of resident equids greater than 30 days of age, a percentage similar to that for colic. Respiratory problems, injury/wounds/trauma, and leg/h hoof problems accounted for 49.1 percent of the deaths in equids from 30 days to 6 months of age.

Colic and injury/wounds/trauma combined with leg or hoof problems accounted for over 50 percent of deaths in the 6 month to 5 year and 5 to 20 year age categories.

Overall, only 8.6 percent of deaths in resident equids greater than 30 days of age were of unknown causes compared to 33.2 percent of deaths in foals less than 30 days of age (Figure 2).

Injury/wounds/trauma and leg/h hoof problems, followed by colic and respiratory problems, accounted for the greatest number of days of lost use (Figure 3) and greatest costs on operations with equids in 1997. Future Equine '98 reports will summarize additional colic results from data collected through the spring of 1999. Recording cases of colic as they occur will minimize recall bias and produce more accurate and detailed information.

For more information on the Equine '98 Study, contact:
Centers for Epidemiology and Animal Health
USDA:APHIS:VS, attn. NAHMS
555 South Howes; Fort Collins, CO 80521
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Figure 1

Equine Mortality by Age, 1997

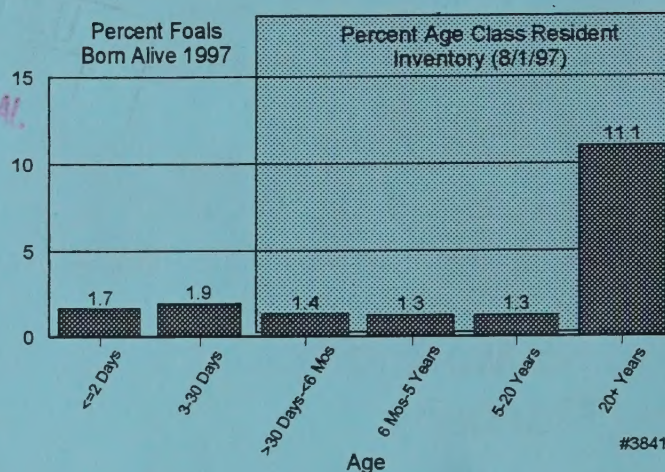


Figure 2

Percent of Foal Deaths (30 Days of Age or Younger) by Cause, 1997

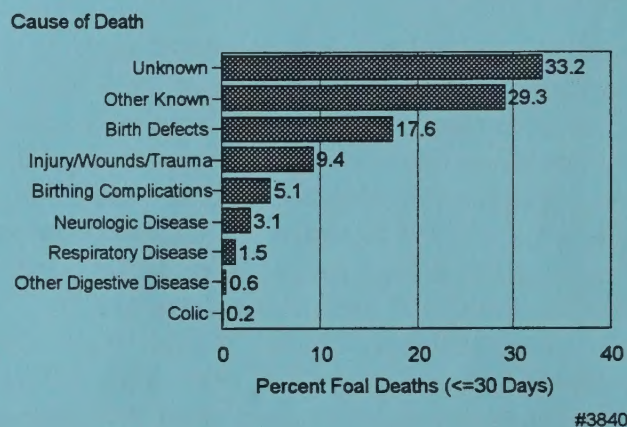
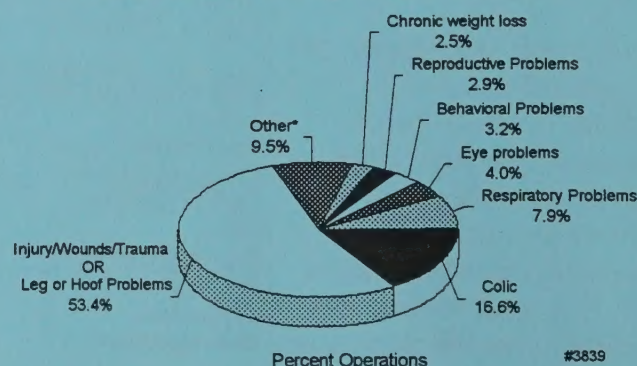


Figure 3

Percent Operations by Condition with Greatest Number of Days of Lost Use, 1997



*Other digestive problems (2.4%), Neurologic problems (2.3%), Infectious disease unrelated to specific body system (2.3%), Skin problems (2.1%), Overweight/obese (0.4%).

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World Wide Web: <http://www.aphis.gov/vs/ceah/cahm>
N292.998

